

**NUMERICAL INDEX — DIVISION 024
AMPLIFIERS, CONTROLLERS,
CONTROL UNITS, REGULATORS, AND ELECTRON TUBES**

1. GENERAL

1.01 This section provides an index of System-issued sections in Division 024.

1.02 A bullet (●) indicates an item that has been added or changed since the previous issue of the index.

1.03 A square (□) indicates a canceled item. Information relating to the cancellation, if necessary, will be shown in a note following the item. Canceled items and related notes will be deleted upon reissue of the index.

1.04 A spade (♠) indicates an item not on microfiche. This index indicates the latest issue for hard-copy BSPs. In some cases, the microfiche BSP will reflect the next higher issue as a result of the reduced distribution interval.

1.05 "Add" is the abbreviation for Addendum.

2. LAYERS

2.01 This division is arranged in layers as follows:

- 024-0 Indexes and Equipment Test Lists
 - 1 Amplifiers and Protective Relaying Equipment
 - 3 Controllers and Control Units
 - 4 Regulators
 - 7 Electron Tubes

3. INDEX

| | Section Number | Issue | Subject |
|---|---------------------------|--------------|---|
| 024-0 INDEXES AND EQUIPMENT TEST LISTS | | | |
| ● ♠ 024-000-000 | 69 | | Numerical Index — Division 024 — Amplifiers, Controllers, Control Units, Regulators, and Electron Tubes |
| ● 024-001-011 | 10 | | ETL — Amplifiers |
| ● 024-001-012 | 4 | | ETL — Controllers and Control Units |
| ● 024-001-013 | 5 | | ETL — Regulators |
| ● 024-001-014 | 3 | | Electron Tubes |
| 024-1 AMPLIFIERS AND PROTECTIVE RELAYING EQUIPMENT | | | |
| | 024-100-100 | 2 | 94D — Description |
| | 024-100-101 | 1 | 103C Amplifier |
| | 024-100-102 | 1 | 103D Amplifier |
| | 024-100-103 | 1 | 116B Amplifier |
| | 024-101-100 | 1 | 100-Type Loudspeaker Sets — Description |
| Add | 024-102-100 | 1 | |
| | 024-102-100 | 1 | 106A — Description |
| | 024-102-300 | 1 | 106A — Initial and Routine Tests |
| | 024-102-500 | 1 | 106A — Tests, Adjustments and Requirements |
| | 024-103-100 | 1 | 118A — Description |
| | 024-103-300 | 1 | 118A — Initial and Routine Tests |
| | 024-103-500 | 1 | 118A — Tests, Adjustments and Requirements |
| | 024-104-100 | 1 | 124-Type — Description |
| | 024-104-101 | 1 | 124A Amplifier |
| | 024-104-102 | 1 | 124B Amplifier |
| | 024-104-103 | 1 | 124C Amplifier |
| | 024-104-104 | 1 | 124D Amplifier |
| | 024-104-105 | 1 | 124E Amplifier — (Western Electric) |
| | 024-104-106 | 1 | 124F Amplifier |
| | 024-104-300 | 1 | 124-Type — Initial and Routine Tests |
| | 024-104-500 | 3 | |
| | 024-104-500 | 2 | 124-Type — Tests and Adjustments |
| | 024-104-501 | 1 | Types 103- and 124-Type — Tests and Inspections |
| | 024-105-100 | 1 | 140-Type — Description |
| | 024-105-101 | 2 | 141A Amplifier — Description |
| | 024-105-300 | 1 | 140-Type — Initial and Routine Tests |
| | 024-105-500 | 2 | 140-Type — Tests, Adjustments and Requirements |
| Add | 024-106-100 | 1 | |
| | 024-106-100 | 1 | 142-Type — Description |
| | 024-106-101 | 1 | 142A — Input Circuit Variations |
| | 024-106-300 | 1 | 142-Type — Initial and Routine Tests |
| Add | 024-106-500 | 1 | |
| | 024-106-500 | 1 | 142-Type — Tests, Adjustments and Requirements |
| | 024-107-100 | 2 | 143-Type — Description |
| | 024-107-101 | 1 | 143A — Input Circuit Variations |
| | 024-107-300 | 1 | 143-Type — Initial and Routine Tests |
| | 024-107-500 | 2 | 143-Type — Tests, Adjustments and Requirements |

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

SECTION 024-000-000

| Section Number | Issue | Subject | Section Number | Issue | Subject |
|-----------------------|--------------|---|-----------------------|--------------|--|
| 024-108-100 | 2 | 153A and 153B Amplifiers — For Use With Head Telephone Sets — General Descriptive Information | 024-150-106 | 1 | KS-16608, L1 Amplifier — Description |
| 024-108-105 | 2 | 292A and 292B — Description | 024-150-107 | 1 | KS-16610, L1 Amplifier — Description |
| 024-109-500 | 2 | SD-95396-01 — Voice Controlled Gain Amplifier Using Amplifier Test Set Circuit | 024-150-108 | 1 | KS-16547, L1 Amplifier — Description |
| 024-120-100 | 1 | KS-16575-L1 (McIntosh) — Description | 024-150-109 | 1 | KS-16617, L1 Amplifier — Description |
| 024-120-300 | 1 | KS-16575-L1 (McIntosh) — Initial and Routine Tests | 024-150-300 | 1 | KS-Specification Speech Amplifiers — Initial and Routine Tests |
| 024-120-500 | 1 | KS-16575-L1 (McIntosh) — Tests and Adjustments and Requirements | Add 024-150-501 | 1 | |
| 024-121-100 | 2 | A-120 (McIntosh) — Description | 024-150-501 | 1 | KS-16508-L1 — Transmission Tests |
| 024-121-300 | 2 | A-120 (McIntosh) — Initial and Routine Tests | 024-150-502 | 1 | KS-16547-L1 — Transmission Tests |
| 024-121-500 | 2 | A-120 (McIntosh) — Tests, Adjustments and Requirements | 024-150-503 | 2 | KS-16608 L1 and KS-16610 L1 Amplifiers — Transmission Tests |
| 024-122-100 | 3 | KS-20425 Amplifier System — Description | 024-150-504 | 1 | KS-16617-L1 — Transmission Tests |
| 024-122-200 | 3 | KS-20425 Amplifier System — Installation and Maintenance | 024-174-100 | 2 | KS-20449 Amplifier — Description |
| 024-122-400 | 2 | KS-20425 Equalizer-Amplifier System — Connections | 024-174-200 | 2 | KS-20449 Amplifier — Installation, Connections, and Maintenance |
| 024-122-500 | 3 | KS-20425 Amplifier System — Tests, Adjustments, and Operation | 024-174-500 | 3 | KS-20449 Amplifier — Tests and Adjustments |
| 024-125-100 | 3 | KS-16622, L1 Amplifier — Description | 024-175-100 | 3 | Transistor Amplifiers — KS-16831, L1, L2, L3 |
| 024-125-300 | 1 | KS-16622-L1 — Initial and Routine Tests | 024-175-101 | 3 | KS-16831 — Identification and Assembly |
| 024-125-500 | 3 | KS-16622-L1 — Transmission Tests | 024-175-102 | 2 | KS-16831, L4 — Power Supply |
| 024-130-100 | 2 | KS-16740 Amplifier System — Description | 024-175-110 | 3 | KS-20159 Equalizer-Amplifier — Description |
| 024-130-300 | 1 | KS-16740-L2 — Initial and Routine Tests | Add 024-175-200 | 1 | |
| 024-130-500 | 2 | KS-16740-L2 — (Altec 437B) — Transmission Tests | 024-175-200 | 1 | KS-16831 — Installation and Maintenance |
| 024-140-101 | 2 | 227A, B, E, and F Amplifiers — Description | 024-175-210 | 2 | KS-20159 Equalizer-Amplifier — Installation and Maintenance |
| 024-140-103 | 1 | 227C and 227D Amplifiers — Description | 024-175-400 | 3 | KS-16831 — Connections |
| 024-140-106 | 2 | KS-20378 L1 and L2 Amplifiers — Description | 024-175-410 | 2 | KS-20159 Equalizer-Amplifier — Connections |
| 024-145-100 | 1 | 289A and 289B Amplifiers — Description | 024-175-500 | 4 | KS-16831, L1, L2, L3 Amplifiers — Tests and Adjustments |
| 024-150-100 | 4 | KS-Specification — Speech Amplifiers — General Information | 024-175-510 | 2 | KS-20159 Equalizer-Amplifier — Tests, Adjustments, and Operation |
| 024-150-101 | 1 | KS-16508, L1 and L2 Amplifiers — Description | 024-176-100 | 2 | KS-16754, L1, L2, L3 and L4 Amplifiers — Description |
| 024-150-102 | 1 | KS-16607, L1 Amplifier — Description | Add 024-176-200 | 1 | |
| 024-150-103 | 1 | KS-16611, L1 Transformer | 024-176-200 | 6 | KS-16754 — Identification, Installation, Connections and Maintenance |
| 024-150-104 | 1 | KS-16612, L1 Mixer Unit — Description | 024-177-100 | 2 | KS-19219, L1 — (3 Watts) |
| 024-150-105 | 1 | Input Circuit Arrangements for KS-16608, L1 and KS-16610, L1 Amplifiers | 024-177-500 | 2 | KS-19219, L1 — Transmission Tests |
| | | | 024-178-100 | 2 | KS-19602, L1 — Description |
| | | | Add 024-178-500 | 1 | |
| | | | 024-178-500 | 1 | KS-19602, L1 — Tests |
| | | | 024-179-100 | 1 | KS-19601, List 1 Amplifier |

| Section Number | Issue | Subject | Section Number | Issue | Subject |
|--|-------|---|-------------------------|-------|--|
| 024-179-500 | 1 | KS-19601, List 1 Amplifier — Transmission Tests | 024-360-201 | 2 | Controller, KS-20522 — High and Low Limit — Installation and Maintenance |
| 024-180-100 | 1 | KS-19220, List 2 Amplifier | 024-4 REGULATORS | | |
| 024-181-100 | 2 | KS-19221 L1 Amplifier | 024-405-701 | 2 | 100A Regulator — Equipped With KS-5511 Motor — Type 892B — Requirements and Adjusting Procedures |
| 024-182-100 | 2 | KS-19739, L1 Amplifier — Description | 024-405-702 | 3 | 100A Regulator — Equipped With KS-5511 Motor — Type 892C — Requirements and Adjusting Procedures |
| 024-182-500 | 3 | KS-19739 L1 Amplifier — Tests | 024-405-703 | 4 | 100A Regulator — Equipped With KS-5511 Motor — Type 892D or Reconditioned Type 892C — Requirements and Adjusting Procedures |
| 024-190-100 | 1 | KS-12046 Loudspeaker | 024-406-701 | 3 | 101 and 102 Regulators — Associated With 50A Drive — Requirements and Adjusting Procedures |
| 024-191-100 | 1 | KS-12048 Autotransformer | Add 024-408-701 | 1 | |
| 024-191-101 | 1 | KS-14417 Autotransformer | 024-408-701 | 3 | KS-2749 Regulator — For Pilot Wire Transmission Regulating System — Requirements and Adjusting Procedures |
| 024-191-102 | 1 | KS-14792, L5 Line Matching Transformer | 024-410-701 | 3 | J2 Carrier Regulator — Condenser Drive — Per ED-61694-01, ED-61694-021 and ED-6194-022 — Requirements and Adjusting Procedures |
| 024-192-100 | 1 | KS-16504 Handset — Transmission Characteristics | Add 024-420-301 | 1 | |
| 024-195-100 | 1 | Description and Operation | 024-420-301 | 4 | Speed and Voltage Regulator — J86253A and J86253B — Operating Methods |
| Add 024-195-200 | 1 | | 024-440-301 | 2 | AC Line Voltage Regulators — J86215A and KS-5695 — Motor-Driven Autotransformer Type — Operating Methods |
| 024-195-200 | 1 | 1A — Installation and Connections | 024-442-301 | 1 | J86223 Voltage Regulator — Operating Methods |
| 024-195-300 | 1 | Maintenance | 024-443-301 | 3 | Voltage Regulator and Rectifier — J86246A and J86246B — Operating Methods |
| 024-195-500 | 1 | 1A — Test Procedures | 024-445-301 | 5 | J86250 Voltage Regulator and Exciter — Operating Methods |
| 024-3 CONTROLLERS AND CONTROL UNITS | | | 024-447-301 | 1 | J86727E Voltage Regulator — Operating Methods |
| 024-320-701 | 1 | 6B Control Unit — Lubrication | 024-449-301 | 2 | J87324A Voltage Regulator — Operating Methods |
| 024-321-701 | 2 | 36A Control Unit — Requirements and Adjusting Procedures | 024-460-101 | 1 | Voltage Regulators — AC-DC Automatic Rotating CAM Types — Description |
| Add 024-330-701 | 1 | | 024-460-301 | 1 | Voltage Regulators — AC-DC Automatic Rotating CAM Types — Operating Methods |
| 024-330-701 | 3 | Pilot Wire Master Flat Gain Controller — KS-7664 — Requirements and Adjusting Procedures | 024-460-701 | 4 | Voltage Regulators — KS-5016, KS-5117 and KS-5468 — AC-DC Automatic Rotating CAM Types — Requirements and Adjusting Procedures |
| 024-330-801 | 2 | Pilot Wire Master Flat Gain Controller — KS-7664 — Replacement Parts and Procedures | 024-460-801 | 2 | Voltage Regulators — KS-5016, KS-5117 and KS-5468 — AC-DC Automatic Rotating CAM Types — Replacement Parts and Procedures |
| Add 024-331-701 | 2 | | 024-462-101 | 3 | Voltage Regulators — Centrifugal Type — Automatic — Description |
| 024-331-701 | 3 | Pilot Wire Master Twist Controller — KS-7781 — Requirements and Adjusting Procedures | | | |
| 024-331-801 | 2 | Pilot Wire Master Twist Controller — KS-7781 — Replacement Parts and Procedures | | | |
| 024-332-701 | 2 | Brown Indicating Controller — KS-6835 — Requirements and Adjusting Procedures | | | |
| Add 024-345-701 | 1 | | | | |
| 024-345-701 | 3 | Motor Controller KS-5647 — Starter KS-15821 — Requirements and Adjusting Procedures | | | |
| 024-346-701 | 5 | KS-5755, KS-15868, and KS-15983, Starters — Requirements and Adjusting Procedures | | | |
| 024-346-801 | 3 | Starters — KS-5755, KS-15868, and KS-15983 — Replacement Parts and Procedures | | | |
| 024-350-701 | 4 | Voltage Controllers — KS-5016, KS-5117, KS-5374 and KS-5519 — Requirements and Adjusting Procedures | | | |
| 024-350-801 | 3 | Voltage Controller KS-5519 — Replacement Parts and Procedures | | | |

SECTION 024-000-000

| Section Number | Issue | Subject |
|-----------------------|--------------|---|
| 024-462-701 | 9 | Voltage Regulator — Centrifugal Type — Automatic — Requirements and Adjusting Procedures |
| 024-462-801 | 6 | Voltage Regulator — Centrifugal Type — Automatic — Replacement Parts and Procedures |
| 024-464-301 | 2 | Voltage Regulator — General Electric Co. — KS-5580 — Electronic Type GVD — Operating Methods |
| 024-465-301 | 2 | AC Line Voltage Regulator — KS-5650 — Operating Methods |
| 024-466-301 | 3 | AC Voltage Regulator — KS-5655 — Operating Methods |
| 024-470-301 | 2 | AC Line Voltage Regulator — KS-15508 — Motor-Driven Autotransformer Type — Operating Methods |
| 024-471-301 | 1 | AC Line Voltage Regulator — KS-15908 Type — Motor-Driven Autotransformer Type — Operating Methods |
| 024-480-701 | 2 | Voltage Regulator — General Electric Type TA, Form B-2 — Requirements and Adjusting Procedures |
| 024-481-101 | 1 | Voltage Regulator — General Electric Type TA-125, Form L — Description |
| 024-481-301 | 1 | Voltage regulator — General Electric Type TA-125, Form L — Operating Methods |
| 024-481-701 | 2 | Voltage Regulator — General Electric Type TA-125, Form L — Requirements and Adjusting Procedures |
| 024-482-701 | 4 | Voltage Regulator — Tilting Pole Type — Requirements and Adjusting Procedures |

| Section Number | Issue | Subject |
|-----------------------|--------------|---|
| 024-485-301 | 1 | Voltage Regulator for Reserve Alternators — Westinghouse — Type UV-AG — Operating Methods |
| 024-490-301 | 3 | KS-20618 Regulator for Single-Phase Rectifiers — Test Procedures |

024-7 ELECTRON TUBES

| | | |
|-------------|---|---|
| 024-700-801 | 4 | Cold Cathode Tubes Containing Radium Bromide and Krypton 85 — Method of Handling |
| 024-706-701 | 1 | 313-Type Cold Cathode Tubes — Using Test Circuit SD-68204-01 — Requirements and Adjusting Procedures — No. 4, A4A, 4A, and 4M Switching Systems |
| 024-707-701 | 5 | Cold Cathode Tubes — Using Test Set SD-25808-01 (J24754A) — Requirements and Adjusting Procedures |
| 024-708-701 | 5 | Cold Cathode Tubes — Using Test Set SD-96464-01 (J94731A) — Requirements and Adjusting Procedures |
| 024-709-801 | 1 | Cold Cathode Tubes — Method of Handling Tubes Not Specially Marked |
| 024-720-801 | 3 | Electron Tube Filament Circuit Adjustment — Reference Voltage and Reference Current Methods |
| 024-720-802 | 1 | Method of Disposal |
| 024-721-801 | 3 | Vacuum Tube Heater Circuit — Method of Adjustment for 9 Volt Operation |
| 024-722-101 | 3 | Western Electric Marking and Dating |
| 024-723-801 | 1 | NIXIE® Tubes Containing Krypton 85 — Storage and Handling |